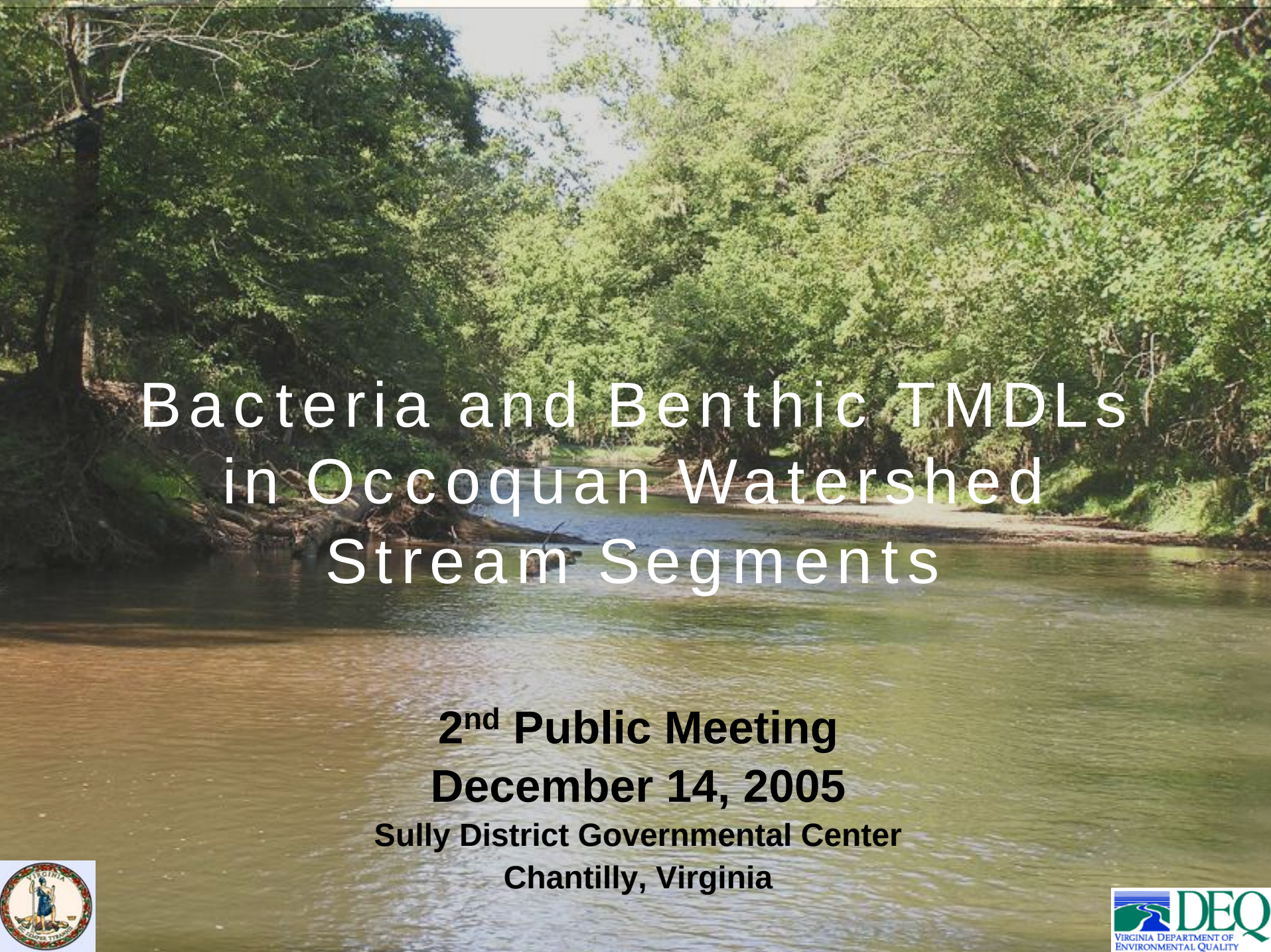

Bacteria and Benthic TMDLs in Occoquan Watershed Stream Segments

2nd Public Meeting

December 14, 2005

Sully District Governmental Center

Chantilly, Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Agenda

- **Overview of TMDL Process**
  Bryant Thomas, VA DEQ
- **Discussion of Benthic TMDL Stressors**
  Raed El-Farhan, Louis Berger Group
- **Overview of Bacteria TMDL Source Assessment**
  Raed El-Farhan, Louis Berger Group
- **Questions**

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Why are we here?

- Periodically, Department of Environmental Quality assesses water sampling data, by comparison to standards, and reports the status or health of Virginia streams to U.S. EPA and the public.
- The impaired or problem waters are listed in an EPA report called the 303(d) Impaired Waters List.
- Once problem waters are identified, Virginia must determine how to reduce pollution so the water meets water quality standards.
- The purpose of this project is address the identified bacteria and benthic impairments in streams in the Occoquan watershed.

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Water Quality Standards

Water Quality Standards (WQS)

are the basis

for the listing of impaired waters

and TMDL development

Water Quality Standards

- **Standards are regulations based on federal and state law that set numeric (number) and narrative (text) limits on pollutants**
- **Standards protect 6 beneficial uses of streams:**
  - **Primary Contact (Swimming)**
  - **Aquatic life**
  - Fish consumption
  - Public water supply
  - Shellfish consumption
  - Wildlife
- **Listing of Impaired Waters and TMDLs are based on standards**

Summary of TMDL Study Impairments

Stream	County/City	Length (mi.)	Year Listed	Impair-ment
Broad Run	Prince William	1.51	2002	Bacteria
Broad Run	Prince William	7.26	2002	Bacteria
Broad Run	Prince William	1.06	2004	Bacteria
South Run	Fauquier, Prince William	2.34	2004	Bacteria
		2.34	1996	Benthic
Kettle Run	Prince William	7.59	2002	Bacteria
Occoquan River*	Prince William	1.61	2004	Bacteria
Little Bull Run	Prince William	3.03	2004	Bacteria
Bull Run	Prince William, Fairfax	4.80	2004	Bacteria
		4.80	1996	Benthic
Popes Head Creek	Fairfax	4.92	2004	Bacteria
		4.92	1998	Benthic

*Currently the Occoquan River impaired segment is 1.61 miles. Based on a review of the data collected at PW Parkway, the total impaired segment will be 5.01 miles in 2006.

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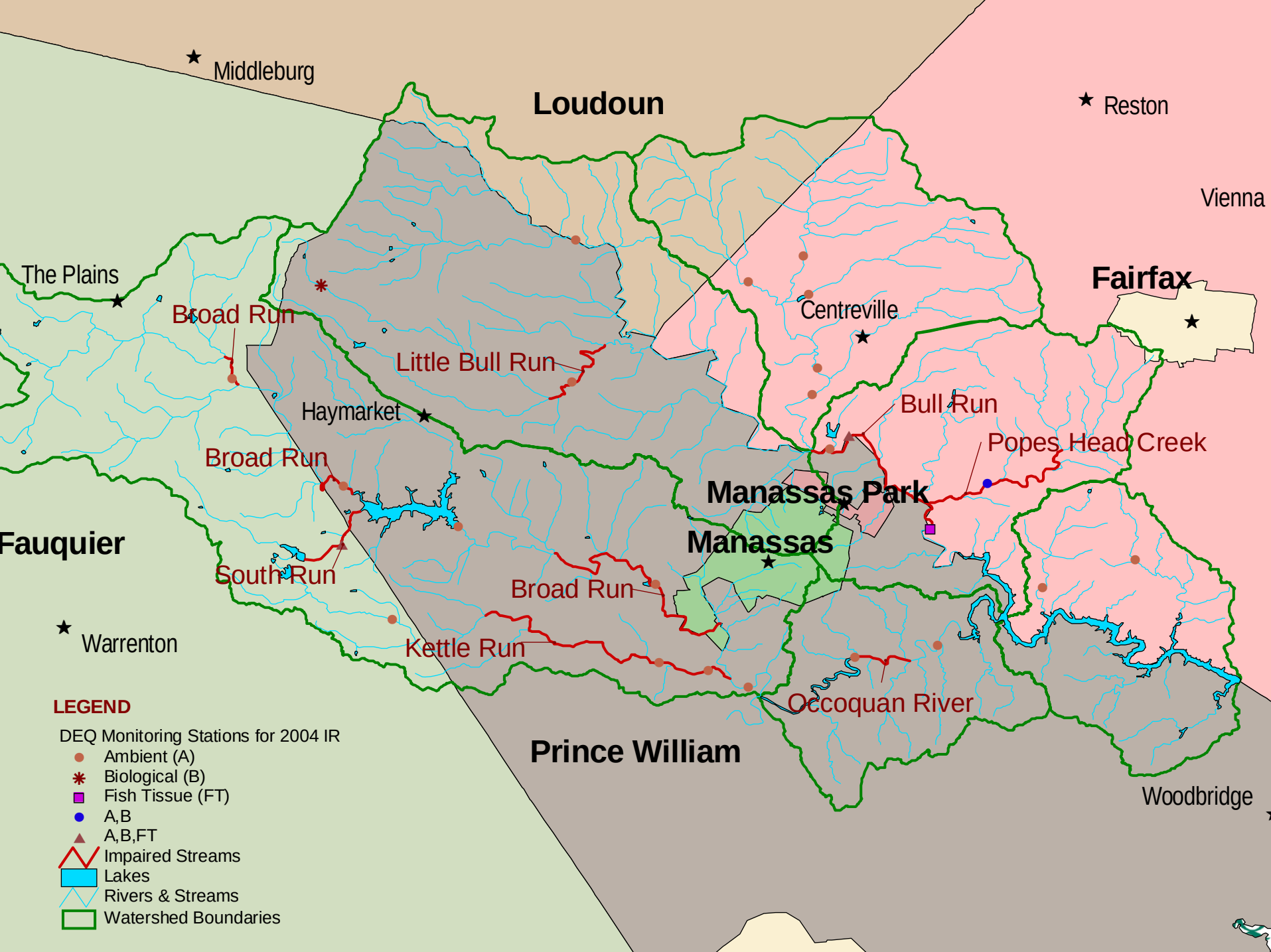
Middleburg
Loudoun
Reston
Vienna
The Plains
Fairfax
Centreville
Broad Run
Little Bull Run
Haymarket
Bull Run
Popes Head Creek
Broad Run
Manassas Park
Manassas
Fauquier
South Run
Broad Run
Warrenton
Kettle Run
Occoquan River
Prince William
Woodbridge
LEGEND
DEQ Monitoring Stations for 2004 IR
Ambient (A)
Biological (B)
Fish Tissue (FT)
A,B
A,B,FT
Impaired Streams
Lakes
Rivers & Streams
Watershed Boundaries

What is a TMDL?

- **TMDL = TOTAL MAXIMUM DAILY LOAD**
- **A TMDL is a pollution budget of how much pollution a waterbody can receive and still meet Water Quality Standards.**
- **A TMDL is a study done under Federal and State law.**
- **TMDLs are under way all over the U.S. Almost 1000 TMDLs are being done in Virginia (1999-2016).**
- **A TMDL considers all forms of pollution**
  - **point sources (from a specific location like a pipe)**
  - **non-point sources (overland runoff from rain or snowmelt with no defined source)**
  - **natural sources like wildlife**

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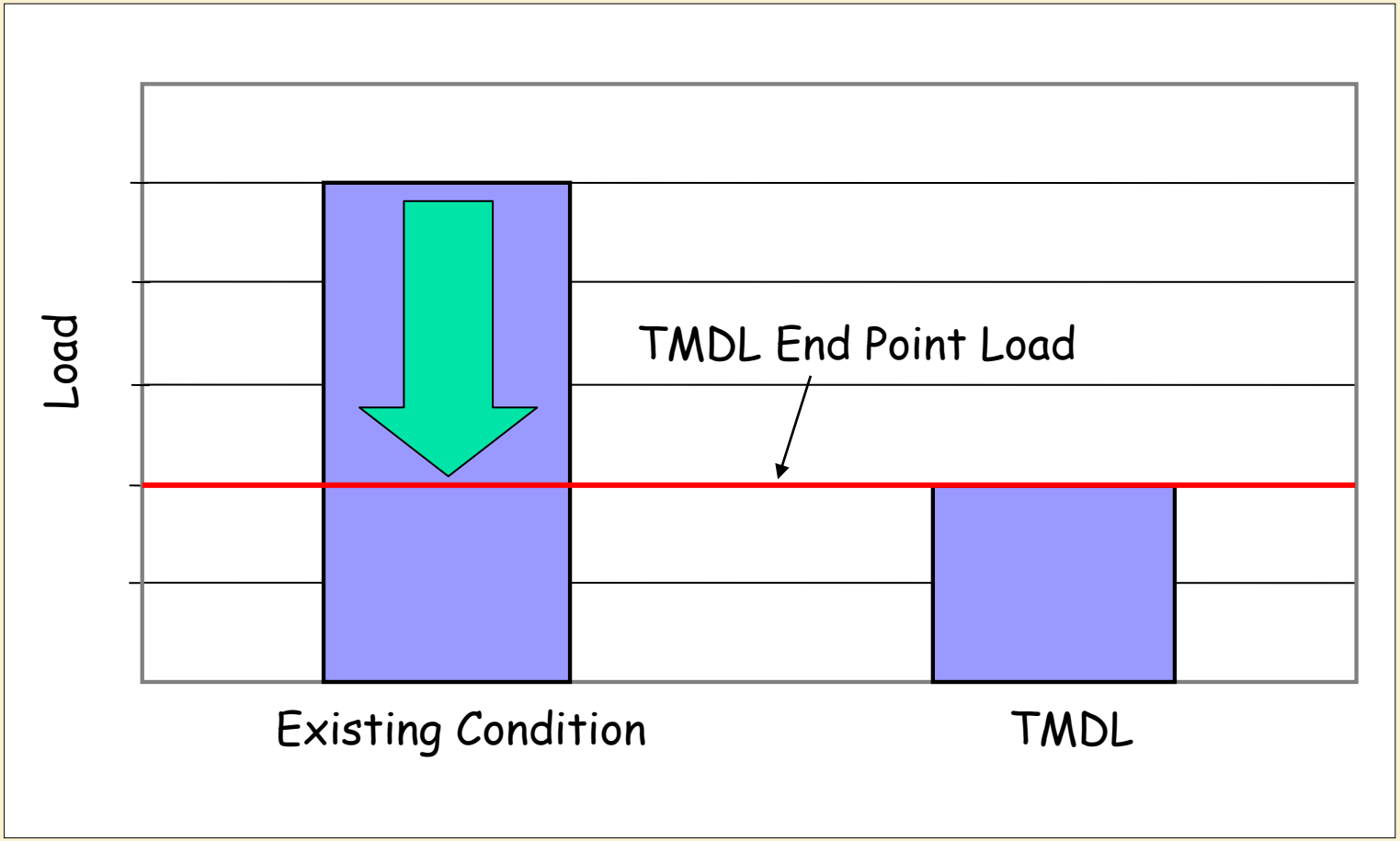
The TMDL Process in VA

- **Three Step TMDL Process in VA**
  - **TMDL Development (Find the source(s) of the pollutant(s) causing the problems & determine the reductions needed)**
  - **Implementation Plan Development (Identify conservation measures to fix the problem. Conservation measures are often called Best Management Practices or BMPs.)**
  - **Implement the BMPs and sample to see improvement.**

An Example TMDL



Reducing existing bacteria load to the TMDL end point load is expected to restore water quality.

How can you help?

- **Help identify data and information about local issues**
- **Attend public meetings and participate – provide input**
- **Help spread the word about the TMDL project.**

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Questions?

Info on TMDLs:
www.deq.virginia.gov/tmdl

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